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We claim:

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2 ~~B1~~ A method of establishing a connection between a first modem and a second modem, said
3 method comprising:

4 connecting said first modem and said second modem via a telephone line;
5 performing a handshaking sequence in which identification data is transmitted between
6 said first modem and said second modem; and
opening a primary data channel.

2. The method of claim 1 wherein said identification data comprises information selected
from the group consisting of a platform identifier, a controller revision, a DSP revision, and a
firmware revision.

3. The method of claim 1 wherein
said handshaking sequence further comprises:

4 transmitting a pseudo-randomly generated code word from said first modem to
said second modem;

5 processing said generated code word by said second modem to scramble said
6 generated code word;

7 transmitting said scrambled code word from said second modem to said first
8 modem;

9 analyzing said scrambled code word; and

10 determining if said second modem meets a compatibility criteria.

4. The method of claim 3 further comprising
optimizing said connection based on said compatibility criteria.
5. The method of claim 1 further comprising
optimizing said connection based on said identification data.
6. A method of communicating from a first modem to a second modem comprising:
opening a primary data channel;
thereafter opening a second logical channel; and
using said second logical channel to transmit diagnostic/maintenance data.
7. The method of claim 6 wherein said diagnostic/maintenance data comprises customer
platform identification data.
8. The method of claim 6 wherein said diagnostic/maintenance data comprises customer
code revision identification data.
9. The method of claim 6 wherein said diagnostic/maintenance data comprises modem
initialization data.
10. The method of claim 6 wherein said diagnostic/maintenance data comprises a remote
query by said first modem of the responses of said second modem to AT commands.

11. The method of claim 6 wherein said diagnostic/maintenance data comprises information regarding the status of call waiting.

12. The method of claim 6 wherein said diagnostic/maintenance data comprises remote network management information.

13. The method of claim 6 wherein said diagnostic/maintenance data comprises system configuration data.

14. The method of claim 6 wherein said transferring step further comprises:
transmitting a command from said first modem to said second modem; and
transmitting a response from said second modem to said first modem in response to said command.

15. The method of claim 6 wherein said diagnostic/maintenance data comprises firmware revision data transmitted from said first modem to said second modem.

16. The method of claim 6 wherein said diagnostic/maintenance data comprises uniquely generated call identification data.

17. The method of claim 16 wherein said call identification data comprises time information.

18. The method of claim 16 where in said call identification data comprises information regarding the types of modems being connected.

19. The method of claim 16 where in said call identification data comprises information regarding which telephone line is being used.

20. The method of claim 6 wherein said second logical channel is used simultaneously with said primary data channel.

21. The method of claim 20 further comprising:
analyzing said primary data channel and said second logical channel for usage; and
prioritizing said primary data channel if both said primary data channel and said second logical channel are simultaneously used.

22. The method of claim 6 further comprising
transmitting identification data on said second logical channel.

23. The method of claim 6 wherein the diagnostic/maintenance data is used to optimize the connection of the first modem and the second modem.

24. The method of claim 6 further comprising sending AT commands from the first modem to the second modem on the second logical channel; and
sending a response to said AT commands from said second modem to said first modem.

25. The method of claim 6 further comprising sending AT commands from the second modem to the first modem on the second logical channel; and
sending a response to said AT commands from said first modem to said second modem.

26. The method of claim 6 wherein said diagnostic/maintenance data comprises a remote query by said first modem of the responses of said second modem to diagnostic query commands.

27. The method of claim 6 wherein said diagnostic/maintenance data comprises a random or pseudo-random number which indexes into a database uniquely or pseudo-uniquely identifying the generated call conditions.

28. The method of claim 6 further comprising:
sending a query command from the first modem to the second modem on said second logical channel; and
sending a response to said query commands from said second modem to said first modem.

29. The method of claim 6 further comprising:
sending a query command from the second modem to the first modem on said second logical channel; and

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sending a response to said query commands from said first modem to said second
modem.

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